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**pro hac vice* application to be filed

*Attorneys for Varian Medical Systems, Inc. and
Varian Medical Systems International AG*

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

VARIAN MEDICAL SYSTEMS, INC. and
VARIAN MEDICAL SYSTEMS
INTERNATIONAL AG,

Plaintiffs,

v.

ELEKTA AB, ELEKTA LTD., ELEKTA INC.,
ELEKTA HOLDINGS U.S., INC., ELEKTA
GMBH, ELEKTA INSTRUMENT
(SHANGHAI) LTD., ELEKTA BEIJING
MEDICAL SYSTEMS CO. LTD. and IMPAC
MEDICAL SYSTEMS, INC.

Defendants.

Case No. _____

**COMPLAINT FOR PATENT
INFRINGEMENT**

DEMAND FOR JURY TRIAL

1 Plaintiffs Varian Medical Systems, Inc. and Varian Medical Systems International AG
2 (collectively “Varian”) file this complaint against Defendants Elekta AB, Elekta Ltd., Elekta
3 Inc., Elekta Holdings U.S., Inc., Elekta GmbH, Elekta Instrument (Shanghai) Ltd., Elekta Beijing
4 Medical Systems Co. Ltd. and IMPAC Medical Systems, Inc. (collectively “Elekta” or
5 “Defendants”), and allege as follows:
6

7 **NATURE OF THE ACTION**

8 1. This action arises under the patent laws of the United States, 35 U.S.C. §§ 1, *et*
9 *seq.*, from Elekta’s direct and indirect infringement of U.S. Patent Nos. 7,880,154 (the “154
10 Patent”), 7,906,770 (the “770 Patent”), and 8,696,538 (the “538 Patent”) (collectively, the
11 “Asserted Patents”).
12

13 **PARTIES**

14 2. Varian Medical Systems, Inc. (“VMS”) is a corporation organized and existing
15 under the laws of the State of Delaware with its principal place of business at 3100 Hansen Way,
16 Palo Alto, California 94304.

17 3. Varian Medical Systems International AG (“VMSI”) is a corporation organized
18 and existing under the laws of Switzerland with its principal place of business at
19 Hinterbergstrasse 14, 6330 Cham, Switzerland. VMSI is a wholly-owned subsidiary of VMS.

20 4. Upon information and belief, Defendant Elekta AB (“EAB”) is a corporation
21 organized and existing under the laws of Sweden, having a principal place of business at
22 Kungstensgatan 18, SE-103 93 Stockholm, Sweden.
23

24 5. Upon information and belief, Defendant Elekta Ltd. (“EL”) is a corporation
25 organized and existing under the laws of the United Kingdom, with its principal place of
26 business at Linac House, Fleming Way, RH10 9RR Crawley, United Kingdom, and EL is a
27 wholly-owned subsidiary of Defendant EAB.
28

1 6. Upon information and belief, Defendant Elekta, Inc. (“EI”) is a corporation
2 organized and existing under the laws of the State of Georgia with its principal place of business
3 at 400 Perimeter Center Terrace, Suite 50, Atlanta, Georgia, and EI is a wholly-owned subsidiary
4 of Defendant Elekta Holdings U.S., Inc.

5 7. Upon information and belief, Defendant Elekta Holdings U.S., Inc. (“EHUS”) is a
6 corporation organized and existing under the laws of the State of Delaware with its principal
7 place of business at 400 Perimeter Center Terrace, Suite 50, Atlanta, Georgia, and EHUS is a
8 wholly-owned subsidiary of Defendant EAB.

9 8. Upon information and belief, Defendant Elekta GmbH (“EG”) is a corporation
10 organized and existing under the laws of the Federal Republic of Germany, with its principal
11 place of business at Borsteler Chaussee 49, 22453 Hamburg, Germany, and EG is a wholly-
12 owned subsidiary of EAB.

13 9. Upon information and belief, Defendant Elekta Instrument (Shanghai) Ltd.
14 (“EIS”) is a corporation organized and existing under the laws of the People’s Republic of China,
15 with its principal place of business at Room 3202 & 3203, Pangu Plaza, Office Building, Block
16 A, No. 27 Fourth Ring Mid Road, Chaoyang District, 100101 Shanghai, China, and EIS is a
17 wholly-owned subsidiary of EAB.

18 10. Upon information and belief, Defendant Elekta Beijing Medical Systems Co. Ltd.
19 (“EBMS”) is a corporation organized and existing under the laws of the People’s Republic of
20 China, with its principal place of business at No. 21, Chuang Xin Road, Science & Technology
21 Park, Chang Ping, 102200 Beijing, China, and EBMS is a wholly-owned subsidiary of EAB.

22 11. Upon information and belief, Defendant IMPAC Medical Systems, Inc.
23 (“IMPAC”) is a corporation organized and existing under the laws of the State of Delaware, with
24

1 its principal place of business at 100 Mathilda Place, 5th Floor, Sunnyvale, CA 94086, and
2 IMPAC is a wholly-owned subsidiary of EHUS.

3 12. All of the Defendants operate under and identify with the trade name, "Elektä."
4 Upon information and belief, each of the Defendants directly or indirectly imports, develops,
5 designs, manufactures, distributes, markets, offers to sell and/or sells products and services in the
6 United States, including in the State of California and in this District, and otherwise purposefully
7 directs activities to the same. Upon information and belief, the Defendants have been and are
8 acting in concert and are otherwise liable jointly, severally or in the alternative for a right to
9 relief with respect to or arising out of the same transaction, occurrence, or series of transactions
10 or occurrences related to the making, using, importing into the United States, offering for sale or
11 selling of at least one infringing product or process.
12

13 **JURISDICTION AND VENUE**

14 13. This Court has subject matter jurisdiction over the matters asserted herein under
15 28 U.S.C. §§ 1331 and 1338(a).
16

17 14. This Court has personal jurisdiction over IMPAC at least because IMPAC's
18 principal place of business is in the State of California and in this District.

19 15. Upon information and belief, this Court has personal jurisdiction over each of the
20 Defendants because each has committed acts of patent infringement and/or contributed to or
21 induced acts of patent infringement by others in the State of California and in this District. As
22 such, each of the Defendants has established sufficient minimum contacts with this District such
23 that it should reasonably and fairly anticipate being called into court in this District and has
24 purposefully directed activities at residents of the state and this District.
25

26 16. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391 and 1400 at
27 least because IMPAC's principal place of business is in this State and in this District, acts
28

1 amounting to or in furtherance of patent infringement have been committed in this District and/or
2 the Defendants are subject to personal jurisdiction in this District.

3 **BACKGROUND TO THE ACTION**

4 17. Varian is a world leader in medical technology. Varian's research and
5 development teams and partnerships have produced a wide array of products, including
6 hardware, software and services that help doctors and hospitals identify and treat various medical
7 conditions.
8

9 18. Varian's greatest contribution to medical innovation has taken shape through its
10 relentless battle against cancer, which has produced a range of treatment technologies, including
11 radiotherapy, radiosurgery, proton therapy and brachytherapy solutions. Varian's foremost
12 mission is to save lives by making cancer treatment safer and more effective.
13

14 19. In 1956, Varian built the first medical-grade linear accelerator in the western
15 hemisphere, which was used by doctors at Stanford-Lane Hospital in San Francisco. Linear
16 accelerators are cancer-fighting treatment devices that accelerate charged subatomic particles or
17 ions along a fixed path in order to destroy cancerous tissue. In the decades since, Varian has
18 continued to be at the forefront of linear accelerator technology used to battle cancer.
19

20 20. In 1960, Varian introduced the Clinac 6 medical linear accelerator—the first
21 commercial, fully rotational radiotherapy linear accelerator built in the United States—which
22 featured a 360° rotational gantry and helped prove that linear accelerators were superior to older
23 cobalt radiation systems.

24 21. In 1972, Varian's Clinac 18 featured a "gridded electron gun" that gave
25 unprecedented control over the radiation dosage.
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1 22. In the 1990s, Varian continued to improve on linear accelerator hardware and
2 further developed complementary imaging and treatment planning systems. These innovations
3 included:

- 4 • 1991's Dynamic Wedge technology allowed doctors to shape linear accelerator
5 beams, which helped prevent unnecessary damage to healthy tissue and allowed
6 doctors to more accurately focus treatment on malignant tumors;
- 7 • 1993's PortalVision™ portal imaging technology, which allowed doctors to
8 verify exact beam placement in relation to a patient's anatomy;
- 9 • 1996's CadPlan® treatment planning software, which used diagnostic images of a
10 tumor and surrounding tissues to generate computerized instructions for targeting
11 the tumor with high-intensity X-ray beams; and
- 12 • 1999's Real-Time Position Management™ (RPM) Respiratory Gating system,
13 which ensured accuracy when imaging and treating tumors that move when the
14 patient breathes by turning on the radiation beam only when a targeted tumor is
15 within a prescribed area.

16 23. In the 2000s, Varian continued to develop industry-leading innovations,
17 developing the Eclipse™ treatment planning software, Dynamic Targeting™ image-guided
18 radiotherapy, ARIA® oncology information system, RapidArc® volumetric modulated arc
19 therapy system and a “Smart Segmentation” tool for the Eclipse™ treatment planning
20 software—technology that won an R&D 100 award.

21 24. Varian has earned significant industry accolades and the success of its medical
22 products has made it one of the most important companies in the cancer treatment industry.
23 Today, Varian appears on both the Fortune 1000 and S&P 500 stock indices. In 2004, Varian
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1 was named to the Forbes Platinum 400 list. In 2006, Varian received an R&D 100 award and
 2 was named a Forbes Global High Performer. From 2007-2009, Varian was named one of
 3 IndustryWeek's "50 Best Manufacturing Companies" in the U.S. three years in a row and was
 4 named a top-15 best performing public corporation by BusinessWeek in 2007 and 2009. In
 5 2011, Varian's TrueBeam system earned the company yet another R&D 100 award, as well as
 6 the prestigious Red Dot Award for Product Design.
 7

VARIAN'S PATENTED TECHNOLOGY

8
 9 25. VMSI is the owner by assignment, and VMS is the exclusive licensee, of the
 10 following patents:

- 11 • U.S. Patent No. 7,880,154 (the "'154 patent") is entitled "Methods and Apparatus
 12 for the Planning and Delivery of Radiation Treatments" and issued on February 1,
 13 2011, naming Karl Otto as the inventor. A true and correct copy of the '154
 14 patent is attached as Exhibit A.
 15
- 16 • U.S. Patent No. 7,906,770 (the "'770 patent") is entitled "Methods and Apparatus
 17 for the Planning and Delivery of Radiation Treatments" and issued on March 15,
 18 2011, naming Karl Otto as the inventor. A true and correct copy of the '770
 19 patent is attached as Exhibit B.
 20
- 21 • U.S. Patent No. 8,696,538 (the "'538 patent") is entitled "Methods and Apparatus
 22 for the Planning and Delivery of Radiation Treatments" and issued on April 15,
 23 2014, naming Karl Otto as the inventor. A true and correct copy of the '538
 24 patent is attached as Exhibit C.

25 26. The patented technology at issue generally relates to radiotherapy and
 26 radiosurgery systems and radiation treatment planning software, and methods of using them.
 27 Radiotherapy uses certain types of focused energy (*i.e.*, radiation) to kill cancer cells and shrink
 28

1 tumors. The clinical goal in radiation oncology is to deliver as high of a radiation dose as
2 possible directly to the tumor to kill the cancerous cells while minimizing radiation exposure to
3 surrounding healthy tissue so that complications, side effects and secondary effects of the
4 radiation are limited as much as possible.

5 27. Advancing these clinical objectives, Varian designed and developed novel
6 radiotherapy and radiosurgery systems that deliver radiation to a patient in accordance with
7 treatment plans that are developed using powerful treatment planning software. This software
8 permits the physician, using detailed three-dimensional computed tomography (CT) imaging, to
9 specify desired radiation doses for a tumor while avoiding surrounding healthy tissue.
10

11 28. To develop an optimized treatment delivery plan, the treatment planning software
12 must account for both the desired dose distribution and the delivery constraints of the radiation
13 device. A resulting treatment plan specifies both the shape and intensity of the radiation beam
14 that will be delivered to the patient during one or more rotations of the gantry around the patient.
15 In order to ensure that as many patients as possible can be treated without sacrificing treatment
16 accuracy and effectiveness for each, it is critical to use optimized software algorithms that
17 minimize the time necessary for both treatment plan development and radiation delivery, but that
18 still produce robust treatment solutions within those constraints.
19

20 **ACTS GIVING RISE TO THIS ACTION**

21 29. Elekta has manufactured, imported, marketed, sold and offered for sale products
22 that infringe upon the Asserted Patents—including but not limited to Elekta's Versa HD, Axesse,
23 Infinity, Synergy, Agility and VMAT (Monaco) products—throughout the United States, and
24 Elekta continues to manufacture, import, market, sell and offer for sale the same.
25

26 30. Some of Elekta's oncology products, such as the Versa HD, infringe upon the
27 Asserted Patents through the delivery of radiation treatment plans generated by certain treatment
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1 planning software, such as Elekta's VMAT (Monaco) software. Elekta sells a number of its
2 oncology products with the intent that they be used to deliver radiation treatment plans generated
3 by software provided by either Elekta or a third party. Elekta sells linear accelerators, software
4 and related products with the expectation that they will be combined for purchase, use and/or
5 sale in the United States, including in this District.
6

7 31. Elekta has made extensive use of Varian's patented technologies, including each
8 of the Asserted Patents. Varian has no choice but to defend its industry-leading innovations and
9 substantial research and development investments. Varian thus requests that this Court award
10 reasonable compensation for Elekta's infringement of the Asserted Patents, including treble
11 damages for Elekta's willful and deliberate infringement of the Asserted Patents, and further
12 requests that this Court grant an injunction against Elekta to prevent ongoing infringement of the
13 Asserted Patents throughout the United States.
14

15 **COUNT I**
16 **(Infringement Of U.S. Patent No. 7,880,154)**

17 32. Varian incorporates by reference and realleges all the foregoing paragraphs of this
18 Complaint as if fully set forth herein.

19 33. The United States Patent and Trademark Office ("USPTO") duly and legally
20 issued the '154 patent on February 1, 2011. VMSI is the legal owner of the '154 patent by
21 assignment, and VMS is the exclusive licensee of the '154 patent.

22 34. Elekta has infringed and continues to infringe, has contributed to and continues to
23 contribute to acts of infringement and/or has actively and knowingly induced and continues to
24 actively and knowingly induce the infringement of one or more claims of the '154 patent,
25 including at least Claim 19, either literally or under the doctrine of equivalents, by advertising,
26 distributing, making, using, selling and/or offering for sale within the United States and/or
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1 importing into the United States medical devices, related software and related services, including
2 but not limited to the Versa HD, Axesse, Infinity, Synergy, Agility and VMAT (Monaco).

3 35. Additionally, the accused products were especially designed, made, and/or
4 adapted for use in an infringing manner. The accused products either embody the claimed
5 inventions on their own or are material, non-staple components of end-use products that embody
6 the claimed inventions, which components have no substantial noninfringing uses.

7
8 36. Elekta's infringement has caused, and is continuing to cause, damage and
9 irreparable injury to Varian, and Varian will continue to suffer damage and irreparable injury
10 unless and until that infringement is enjoined by this Court.

11 37. Varian is entitled to injunctive relief and damages in accordance with 35 U.S.C.
12 §§ 271, 281, 283, and 284.

13
14 38. Elekta has had knowledge of the '154 patent since at least as early as March 3,
15 2015, when it was informed of the patent by Varian. Additionally, upon information and belief,
16 Elekta has had knowledge of the '154 patent, and its infringement thereof, since at least April 11,
17 2011, as evidenced by citation to the '154 patent in connection with the USPTO's issuance of a
18 Notice of Allowance for Elekta's U.S. Patent No. 7,961,843, and by Elekta's May 2, 2011
19 acknowledgement of and agreement with the same.

20
21 39. Elekta's infringement of the '154 patent has been and continues to be willful and
22 deliberate, justifying a trebling of damages under 35 U.S.C. § 284. Upon information and belief,
23 Elekta's accused actions continue despite an objectively high likelihood that they constitute
24 infringement of the '154 patent. Elekta either knows or should have known about its risk of
25 infringing the '154 patent. Elekta's conduct despite this knowledge is made with both objective
26 and subjective reckless disregard for the infringing nature of their activities.

1 52. Elekta has infringed and continues to infringe, has contributed to and continues to
2 contribute to acts of infringement and/or has actively and knowingly induced and continues to
3 actively and knowingly induce the infringement of one or more claims of the '538 patent,
4 including at least Claims 23 and 26, either literally or under the doctrine of equivalents, by
5 advertising, distributing, making, using, selling and/or offering for sale within the United States
6 and/or importing into the United States medical devices, related software and related services,
7 including but not limited to the Versa HD, Axesse, Infinity, Synergy, Agility and VMAT
8 (Monaco).
9

10 53. Additionally, the accused products were especially designed, made, and/or
11 adapted for use in an infringing manner. The accused products either embody the claimed
12 inventions on their own or are material, non-staple components of end-use products that embody
13 the claimed inventions, which components have no substantial noninfringing uses.
14

15 54. Elekta's infringement has caused, and is continuing to cause, damage and
16 irreparable injury to Varian, and Varian will continue to suffer damage and irreparable injury
17 unless and until that infringement is enjoined by this Court.

18 55. Varian is entitled to injunctive relief and damages in accordance with 35 U.S.C.
19 §§ 271, 281, 283, and 284.
20

21 56. Elekta has had knowledge of the '538 patent since at least as early as March 3,
22 2015, when it was informed of the patent by Varian.

23 57. Elekta's infringement of the '538 patent has been and continues to be willful and
24 deliberate, justifying a trebling of damages under 35 U.S.C. § 284. Upon information and belief,
25 Elekta's accused actions continue despite an objectively high likelihood that they constitute
26 infringement of the '538 patent. Elekta either knows or should have known about its risk of
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1 infringing the '538 patent. Elekta's conduct despite this knowledge is made with both objective
2 and subjective reckless disregard for the infringing nature of their activities.

3 58. Elekta's infringement of the '538 patent is exceptional and entitles Varian to
4 attorneys' fees and costs under 35 U.S.C. § 285.

5
6 **REQUEST FOR RELIEF**

7 WHEREFORE, Varian respectfully requests:

8 (a) Judgment be entered that Defendants have infringed each of the Asserted Patents;

9 (b) Judgment be entered that the commercial use, sale, offer for sale, manufacture or
10 importation by Elekta of at least Elekta's Versa HD, Axesse, Infinity, Synergy, Agility and
11 VMAT (Monaco) products infringe each of the Asserted Patents;

12 (c) That, in accordance with 35 U.S.C. § 283, Elekta, and all affiliates, employees,
13 agents, officers, directors, attorneys, successors, and assigns and all those acting on behalf of or
14 in active concert or participation with any of them, be preliminarily and permanently enjoined
15 from infringing each of the Asserted Patents;

16 (d) A declaration that Elekta must render a full and complete accounting to Varian for
17 Elekta's profits, gains, advantages or the value of business opportunities received from the
18 foregoing acts of infringement;

19 (e) An award of damages sufficient to compensate Varian for Elekta's direct
20 infringement of each of the Asserted Patents, including lost profits suffered by Varian as a result
21 of Elekta's infringement and in an amount not less than a reasonable royalty;

22 (f) An award of damages sufficient to compensate Varian for Elekta's indirect
23 infringement of each of the Asserted Patents, including lost profits suffered by Varian as a result
24 of Elekta's infringement and in an amount not less than a reasonable royalty;

1 (g) An order awarding Varian treble damages under 35 U.S.C. § 284 as a result of
2 Elekta's willful and deliberate infringement of each of the Asserted Patents;

3 (h) That the case be found exceptional under 35 U.S.C. § 285 and that Varian be
4 awarded its attorneys' fees;

5 (i) Costs and expenses in this action;

6 (j) An award of prejudgment and post-judgment interest; and

7 (k) Such other and further relief as the Court may deem just and proper under the
8 circumstances.
9

10
11 DATED: September 25, 2015

Respectfully submitted,

12 QUINN EMANUEL URQUHART & SULLIVAN, LLP
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15 By: /s/ Sean Pak
Sean Pak

16 *Attorneys for Varian Medical Systems, Inc. and*
17 *Varian Medical Systems International AG*
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DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiffs Varian Medical Systems, Inc. and Varian Medical Systems International AG hereby demand a trial by jury on all issues triable of right by a jury.

DATED: September 25, 2015

Respectfully submitted,

QUINN EMANUEL URQUHART & SULLIVAN, LLP

By: /s/ Sean Pak

Sean Pak

*Attorneys for Varian Medical Systems, Inc. and
Varian Medical Systems International AG*